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SYSTEM, APPARATUS AND METHOD FOR THE DETECTION AND 1 2 REMOVAL OF VIRUSES IN MACROS 3 4 ABSTRACT OF THE DISCLOSURE 5 The detection and removal of viruses from macros is disclosed. A macro virus detection module includes a macro locating and decoding module, a macro 6 7 virus scanning module, a macro treating module, a file treating module, and a virus 8 information module. The macro locating and decoding module determines 9 whether a targeted file includes a macro, and, where a macro is found, locates and 10 decodes it to produce a decoded macro. The macro virus scanning module 11 accesses the decoded macro and scans it to determine whether it includes any 12 viruses. Unknown macro viruses are detected by the macro virus scanning module by obtaining comparison data that includes sets of instruction identifiers from the 13 14 virus information module and determining whether the decoded macro includes a 15 combination of suspect instructions which correspond to instruction identifiers. 16 The macro treating module locates suspect instructions in the decoded macro using 17 the comparison data and removes the suspect instructions to produce a treated 18 macro. The file correcting module accesses a targeted file with an infected macro 19 and replaces the infected macro with the treated macro produced by the macro

treating module.